REMOVABLE SELF-LOCKING BLOCK OF FIELD WINDING

ABSTRACT OF THE DISCLOSURE

A multi-pole electric machine rotor assembly includes a rotor forging including a rotor body having poles 13 with pole faces and a winding module including a plurality of field windings positioned adjacent the pole faces and winding insulators disposed between each successive pair of the field windings, respectively. A winding block, disposed in engagement with the winding module, is shaped to be shifted to a final position relative to the winding module when the rotor assembly rotates at about its rated speed to thereby compress the winding module. Either the winding block or the winding module can be displaced by centrifugal forces during rotation. In the final position, the winding block is locked by friction in a position to maintain compression in the winding module. The winding block serves to provide a pre-stress in the field windings to keep the field windings tight over the design range of spin speeds, thereby controlling winding position and reducing alternating radial movement.